Mapping the Way to a Better Soybean

大豆（酱油是 Soy Sauce）

Scientists have completed the plant's genome. It could lead to better digestion for pigs and chickens, less water pollution and new ways to prevent crop disease.

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This is the VOA Special English Agriculture Report.

Soybeans are eaten by people and fed to animals. Some farmers grow them to replace lost nitrogen in the soil.

喂养，饲养

氮元素

Soybeans were first grown in Asia thousands of years ago. Now scientists have a full genetic map of the soybean. This is the first genome completed for a member of the legume family.

基因组。基因是 gene

The genome will make it easier to target different qualities and develop improved crops. Sequencing the genes, organizing all of them in order, will save many hours of searching. It will make it easier to search for what each gene is responsible for.

A report on the genome appeared last week in the journal Nature.

Scott Jackson at Purdue University in West Lafayette, Indiana, helped lead the study team. He says the kind of soybeans they studied have forty-six thousand genes. Between seventy and eighty percent of them, however, are copies of other genes.

Some genes change or disappear over time. But Professor Jackson explains that soybeans have kept copies of most their genes. This is fairly unusual for plants, he says, and extremely unusual for animals.

Genes are organized along chromosomes. These contain molecules of DNA, the building blocks of life.

染色体

The researchers found that the sets of chromosomes in soybeans have copied themselves at least twice. It happened almost sixty million years ago and again thirteen million years ago.

猜含义

Over time, genes develop changes, known as mutations. Scientists can tell when these changes happened. The number of mutations over time helped the team estimate when the duplications in soybeans took place.

The genome could help genetic engineers develop soybeans that are processed better by farm animals. Soybeans contain chemicals called phytates. These prevent the absorption of phosphorus in the diet.

猜含义

元素——磷

Pigs and chickens especially are affected. Undigested phosphorus in their waste can pollute water supplies.

未消化的

Genetic engineering has already reduced phytates in soybeans. Now with the gene map there could be further reductions.

The genome could also help farmers avoid Asian soybean rust disease, a highly destructive fungus spread by the wind. The researchers say they found a gene for resistance to this disease. Now they have to find a way to use it.

And that's the VOA Special English Agriculture Report, written by Jerilyn Watson. You can find transcripts, MP3s and captioned videos of our reports at voaspecialenglish.com. I'm Bob Doughty.

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（即便像上次 verycd 被停了也不会受影响）

如果 google group 被封锁了，可以想办法翻墙，也可以给 chinese-learn-english@googlegroups.com 发个信，系统可以手工加你的 email。